

1. (Presently Amended) An ~~isotropic~~ alignment layer for a liquid crystal display, comprising a cured isotropic transparent and non-birefringent polymer film formed from a homogeneous mixture of:
  - an optical, curable epoxy; and
  - a reactive mesogen
  - the cured mixture of mixed with said epoxy and the cured reactive mesogenconstituting an isotropic transparent and non-birefringent polymer film comprising polymerized liquid crystals molecules randomly oriented in cured optical epoxy, said polymerized liquid crystals molecules at an exposed surface of the isotropic transparent and non-birefringent polymer film capable of being subsequently aligned.
2. (Presently Amended) The ~~isotropic~~ alignment layer of claim 1, wherein said composition is polyimide free.
3. (Presently Amended) The ~~isotropic~~ alignment layer of claim 1, wherein the epoxy is UV curable.
4. (Presently Amended) The ~~isotropic~~ alignment layer of claim 1, further comprising a photo-initiator mixed with said epoxy.
5. (Presently Amended) The ~~isotropic~~ alignment layer of claim 4, further comprising a thermal-inhibitor mixed with said epoxy, reactive mesogen and photo-initiator.
6. (Presently Amended) The ~~isotropic composition~~ alignment layer of claim 1, wherein said epoxy comprises between 10% and 80% by weight of said isotropic alignment layer.
7. (Previously Withdrawn) A method for fabricating an alignment layer for a liquid crystal device, comprising:
  - a) dissolving an epoxy and a reactive mesogen (RM) in a solvent to form an isotropic mixture;
  - b) forming a layer of said mixture on a substrate;
  - c) removing solvent from the layer;
  - d) polymerizing the layer; and
  - e) aligning the molecules in the layer.
8. (Previously Withdrawn) The method of claim 7, wherein the molecules in the layer are aligned by rubbing the layer.
9. (Previously Withdrawn) The method of claim 7, wherein the molecules in the layer are photo-polymerized by UV curing.

10. (Previously Withdrawn) The method of claim 7, wherein the substrate is a surface of a liquid crystal cell.
11. (Previously Withdrawn) The method of claim 7, wherein the substrate is a polymerized liquid crystal layer
12. (Previously Withdrawn) The method of claim 7, wherein the mixture formed in step a) further comprises a photo-initiator.
13. (Previously Withdrawn) The method of claim 7, wherein the solvent is a ketone.
14. (Previously Withdrawn) The method of claim 13, wherein said solvent is cyclohexanone.
15. (Previously Withdrawn) A method for fabricating an alignment layer for a liquid crystal device, comprising:
  - a) dissolving a mixture comprising an epoxy and a reactive mesogen (RM) in a solvent to form an epoxy/RM mixture;
  - b) forming a layer of said epoxy/RM mixture to form a layer on the substrate;
  - c) removing solvent from the layer; and
  - d) polymerizing and aligning the molecules in the layer by photo-alignment.
16. (Previously Withdrawn) A method for aligning a liquid crystal layer comprising:
  - casting a liquid crystal composition on an alignment layer, said alignment layer comprising:
    - a UV curable epoxy; and
    - a reactive mesogen; and
    - UV curing the layer.
17. (Previously Withdrawn) The method of claim 16, wherein said alignment layer is polyimide-free.
18. (Previously Withdrawn) The method of claim 16, wherein said alignment layer comprises a high pretilt layer, said high pretilt layer being coated on a layer comprising the epoxy and reactive mesogen, said liquid crystal composition being cast on the high pretilt layer.
19. (Previously Withdrawn) A method for fabricating an LCD compensator comprising:
  - forming a first alignment layer on a substrate, said alignment layer being polyimide-free,

aligning molecules in said first alignment layer to correspond to a desired alignment for the compensator, and

forming a compensator comprising a reactive mesogen on said first alignment layer, said compensator aligned in accordance with the first alignment layer.

20. (Previously Withdrawn) The method of claim 19, wherein said first alignment layer comprises a mixture of a reactive mesogen and an epoxy.

21. (Previously Withdrawn) The method of claim 20, wherein said epoxy is UV curable.

22. (Previously Withdrawn) The method of claim 20, wherein said first alignment layer further comprises:

a photo-initiator; and

a ketone solvent is used to dissolve the reactive mesogen, epoxy and photo-initiator.

23. (Previously Withdrawn) The method of claim 22, further comprising the steps of casting the first alignment layer and removing the ketone solvent after casting.

24. (Previously Withdrawn) The method of claim 19, wherein said molecules in said first alignment layer are aligned by:

photo-polymerizing the molecules; and

rubbing the layer to produce the desired alignment.

25. (Previously Withdrawn) The method of claim 19, wherein said molecules in said first alignment layer are aligned by photo-alignment.

26. (Previously Withdrawn) The method of claim 19, wherein said compensator further comprises a photo-initiator and a ketone solvent, with said reactive mesogen and photo-initiator dissolved in the ketone solvent prior to formation of the compensator.

27. (Previously Withdrawn) The method of claim 26, further comprising casting the compensator and removing solvent from the compensator after casting it.

28. (Previously Withdrawn) The method of claim 19, further comprising photo-polymerizing the compensator after casting it.

29. (Previously Withdrawn) The method of claim 19, wherein said compensator is an A-plate.

30. (Previously Withdrawn) The method of claim 29, wherein said compensator further comprises a surfactant.

31. (Previously Withdrawn) The method of claim 19, further comprising forming a second alignment layer on said first alignment layer, said compensator being formed on said second alignment layer.
32. (Previously Withdrawn) The method of claim 19, wherein said compensator is an O-plate.
33. (Previously Withdrawn) The method of claim 32, further comprising forming a high pretilt layer on the first alignment layer, said compensator being formed on said high pretilt layer, and forming said compensator aligned according to the combined alignments of the first alignment layer and the high pretilt layer.
49. (Previously Withdrawn) A liquid crystal display (LCD), comprising:  
a liquid crystal cell; and  
at least one compensator stack, optically aligned with said liquid crystal cell,  
said compensator stack comprising:  
an alignment layer; and  
a first compensator layer on said first alignment layer;  
said first alignment layer comprising at least one polyimide-free alignment layer.
50. (Previously Withdrawn) The LCD of claim 49, wherein said polyimide-free alignment layer comprises a reactive mesogen/UV curable epoxy mixture.
51. (Previously Withdrawn) A display system, comprising:  
an operating system; and  
a liquid crystal display (LCD) connected to said operating system to display a characteristic of said operating system, said LCD comprising:  
a liquid crystal cell; and  
at least one compensator stack, optically aligned with said liquid crystal cell,  
said compensator stack comprising:  
an alignment layer; and  
a first compensator layer on said first alignment layer,  
said first alignment layer comprising at least one polyimide-free alignment layer.
52. (Previously Withdrawn) The system of claim 51, wherein said polyimide-free alignment layer comprises a reactive mesogen/UV curable epoxy mixture.

53. (Presently Amended) The ~~isotropic~~ alignment layer of claim 1 wherein the randomly oriented liquid crystals in the cured film are capable of being azimuthally oriented by rubbing the film.
54. (Presently Added) The ~~isotropic~~ alignment layer of claim 1 wherein the reactive mesogen is a UV curable monoacrylate or diacrylate monomer or oligomer.
55. (Presently Amended) The ~~isotropic~~ alignment layer of claim 1 wherein the cured polymer film is formed from optical epoxy and reactive mesogen dissolved in a solvent which does not damage other layers of the liquid crystal device upon which it is coated.
56. (Presently Added) The ~~isotropic~~ alignment layer of claim 55 wherein the solvent is a ketone.
57. (Presently Added) The ~~isotropic~~ alignment layer of claim 55 wherein the solvent is chosen from the group consisting of cyclohexanone, methylethylketone, acetone, cyclopentanone, toluene and chlorobenzene.